Control of Material Properties through Advanced StructureS (COMPASS)
DARPA-BAA-10-73
Frequently Asked Questions

GENERAL INFORMATION

Q: What DARPA seedlings predate this program? Are reports available?
A: There were no preceding efforts.

Q: If my research is relevant in this field, but is not geared specifically to meet these goals, is there a solicitation that I can respond to?
A: Yes. DARPA/DSO has an Open solicitation (DARPA-BAA-10-55) for which responses are being collected through 5 May 2011.

WORKSHOP

Q: Will the DOD service presentations from today be on the website?
A: All presentations approved for public release will be posted on the teaming website.

PROPOSALS & TEAMING

Q: Will the funded 6.1 research necessarily be ITAR restricted?
A: It is the contractor's responsibility to comply with all ITAR and export regulations.

Q: Is teaming required?
A: Teaming within a proposal submission is welcome but not required. Proposals addressing one or multiple areas of interest may approach the goal in its entirety or performers may choose to propose to solve individual aspects (theory, modeling, etc.) of each technical area's problem, but must clearly articulate how the proposed piece will facilitate meeting the programmatic goals.

Q: Can you help me find a Prime/Sub for my team?
A: A teaming site will be available for this purpose. Teams should be formed independently as DARPA will not arrange teaming relationships.

Q: Can a prime or collaborator be an international company?
A: Yes, international companies and universities are acceptable.

Q: Are you accepting classified proposals?
A: Details will be provided in the BAA.

Q: What are the publication restrictions for fundamental research? Does DARPA need to approve publications?
A: There are no publication restrictions on fundamental research.

Q: Is subcontracting to a National Lab or Federally Funded Research and Development Center (FFRDC) permitted?
A: Yes. Proposer should comply with the section on FFRDCs as stated within the BAA.

Q: Will any response be provided to abstracts?
A: It is anticipated that replies will be made on whether proposals are encouraged or discouraged as well as limited feedback on the encourage/discourage decision.

Q: May proposals be submitted to multiple technical areas?
A: Yes, provided the proposal addresses multiple technical areas and the principal investigator is the same for all areas. The proposers are encouraged to carefully consider and motivate the advantages of proposing to several areas. As stated in the BAA, the technical area(s) must be clearly indicated on the cover sheet of the proposal.

Q: How is success defined in the COMPASS program?
A: Work that achieves or enables achievement of the program goals of developing and transitioning high performance thermoelectric materials would be considered successful. Transition of high performance thermoelectric materials to module development or other steps toward commercialization is critical to success.

COST

Q: What is the overall DARPA budget for COMPASS? Are there funding limits for individual proposals?
A: The investment profile for COMPASS has not been fixed at this time. The final program will depend on the proposals selected for funding. At this time, no single-project funding limits have been set.

Q: What is the timeline and anticipated duration for COMPASS?
A: It is anticipated that proposals will be solicited for three (3) program phases. Total program effort is not to exceed 60 months. However, proposals will be evaluated, in part, on the proposer's abilities to aggressively pursue performance goals in as short a timeframe as technically feasible, to accurately account for that timeframe, and ability to identify, understand and mitigate potential risk in schedule.

Q: What are the limitations with budgets for 6.1 research?
A: There is a Congressional mandate that indirect costs must be capped at 35 percent of the cost of the award. See the BAA for details.

Q: Funding for this BAA has been described as 6.1 research. Would it be possible to propose a 6.2 or 6.3 effort?
A: This effort has existing funding for 6.1 research, which is typically classified as fundamental research. Proposers would be required to describe how they would meet the milestones without doing 6.1 work. You are welcome to propose anything you wish, but there is no guarantee that 6.2/6.3 funds would be available.

PROGRAM STRUCTURE

Q: How many awards are anticipated?
A: The number of awards will depend on the merits of the proposals received and funds available.

Q: Should the proposal include all phases of the program?
A: Yes. Proposers should establish milestones for each phase of the program as described in the BAA and construct a corresponding statement of work to achieve the milestones.

Q: Does the proposal have to follow exactly the program outline specified in the BAA?
A: Proposers should adhere closely to the objectives described in the BAA. Work distributed among the phases may be reorganized as long as it is in keeping with the overall technical objectives and the program progress.

Q: If one of the stated goals does not make sense given a chosen approach, can I propose a complimentary milestone?
A: Yes. You are welcome to propose different or additional milestones, but you must be able to justify within your proposal that what you are bidding for that goal is consistent with the stated program goals and will not produce unmanageable additional technical risk.

Q: Is it acceptable to propose multiple structures or methods (and an eventual down-select) within one proposal?
A: It is within the realm of possibility to do so, as long as there is a coherent attempt to meet the milestones and remain consistent with the BAA.

Q. Are potential applications to be defined by the proposers?
A. Yes, proposers must define the area of DoD impact and clearly motivate how the application drives interim milestones.

Q: What is the timeline for advanced studies?
A: Twelve months or shorter.

TECHNICAL

Q: Is my topic consistent with the objectives of the BAA?
A: DARPA is not able to suggest specific research approaches. If you feel that your chosen effort is consistent with the objectives of the BAA and capable of meeting the goals stated within the BAA, then you should feel free to propose them. It is strongly encouraged that you read the BAA carefully. It is your burden to make clear within your proposal that your approach is supportive of your innovative claims, and includes a detailed analysis of the technical motivation.

Q: May I propose work at an alternative temperature range instead of the range specified in the BAA?
A: Yes. Sufficient justification must be made that the work proposed is appropriate to the program goals and a technical case should be provided to support that the temperature range proposed is attractive for targeted applications. It is the proposer's burden to clearly articulate that the proposed work offers sufficient DoD payoff.

Q: Should the ZT goal be achieved at a peak temperature or over a temperature range?
A: Power generation and cooling applications may have different performance needs, and proposals which demonstrate revolutionary improvements in thermoelectric materials will be most attractive. Proposers are encouraged to provide a clear technical justification for their ZT goal based on the proposed application and to make the case for revolutionary performance by comparing to appropriate state-of-the-art systems and materials.

Q: At which stage of the program would technology transition discussions be appropriate?
A: Proposers are encouraged to consider technology transition early in the research. Identification of advocates in the service branches is not required but is encouraged because end-user considerations may factor into the proposed work.

Q: Are both n-type and p-type thermoelectric materials required?
A: Yes. Research should include advanced n-type and p-type thermoelectric materials appropriate for modules.

Q: Must a power generation or cooling module be demonstrated?
A: Yes, the program has a module demonstration component, however the module is a demonstration and need not be optimized. As stated in the BAA, "Full device development may be proposed in the final phase, but is not required. However, accelerated development of materials systems to device/transition readiness is particularly of interest and highly encouraged."

Q: What does technology transfer mean for this 6.1 research effort?
A. Technology transfer can mean transitioning an advanced material into a device or module, transitioning a module into a system, or transferring a system to the market. Materials development must have end application in mind to ensure success in any of these transitions.

Q: Which scale of structured materials are of interest? Are bulk materials acceptable?
A: Materials must have structures that drive functionality. Bulk or bulk-like processes may be acceptable if structure drives functionality.

Q. What is a representative state-of-the-art technology for cooling?
A. Stirling cryo-coolers are the state-of-the-art technology, with COP as an appropriate technical performance value. Proposals must clearly indicate how an improvement over state-of-the-art COP is achieved by advances in material ZT.

Q. Why are the thermoelectric material goals given in terms of ZT, not efficiency or the coefficient of performance?
A. COMPASS is a materials science program and the goals are given in terms of ZT to place the research emphasis on development of advanced thermoelectric materials instead of on engineering solutions.